



Reconocimiento de Patrones

Version 2022-2

Distancia Mínima

[Capítulo 4]

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DSP-ASIC BUILDER GROUP

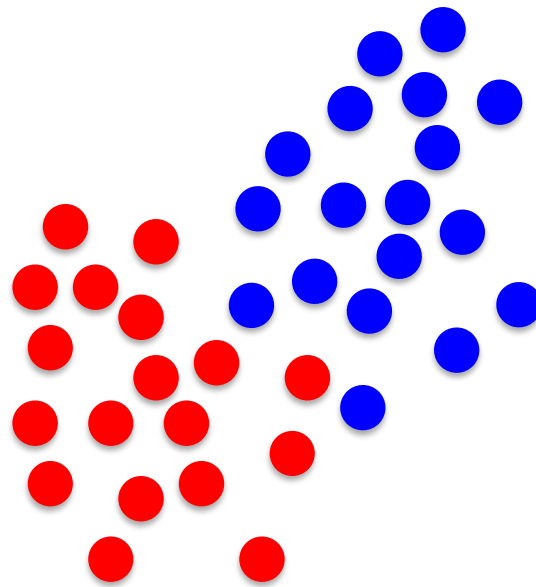
Director Semillero TRIAC

Ingeniería Electronica

Universidad Popular del Cesar

DMIN: Minimal Distance

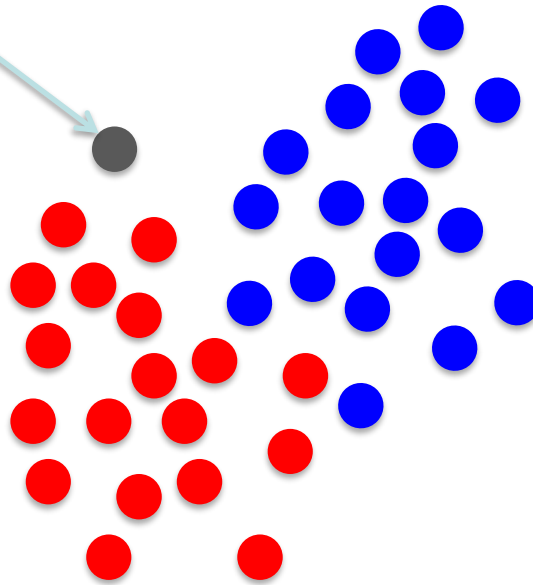
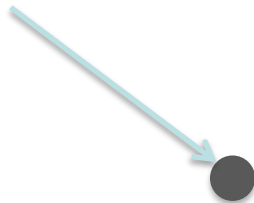
DMIN: Minimal Distance



Training data

DMIN: Minimal Distance (two classes)

Testing data
?

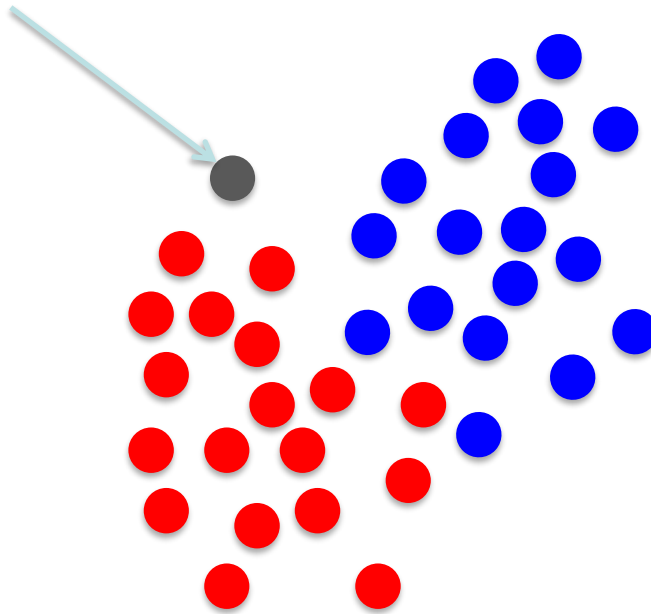


Training data

DMIN: Minimal Distance (two classes)

DMIN Algorithm

Testing data

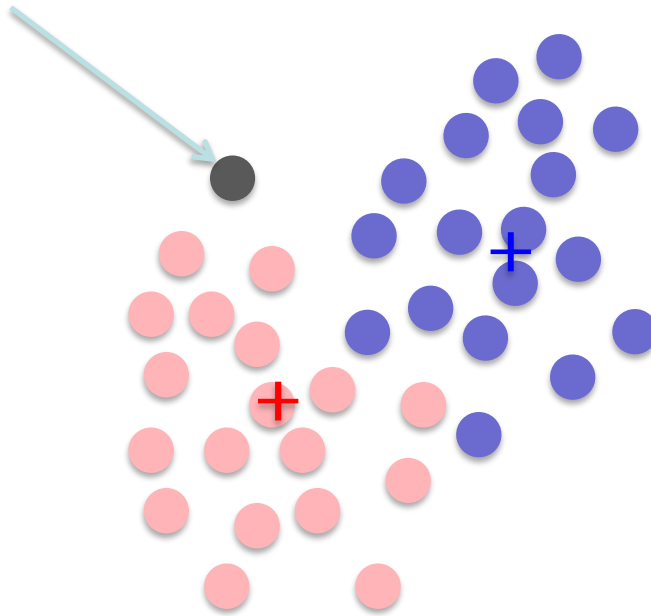


DMIN: Minimal Distance (two classes)

DMIN Algorithm

1. Centers of mass of each class

Testing data

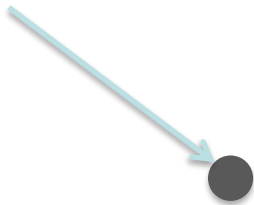


DMIN: Minimal Distance (two classes)

DMIN Algorithm

1. Centers of mass of each class

Testing data

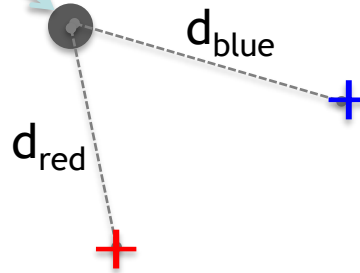


DMIN: Minimal Distance (two classes)

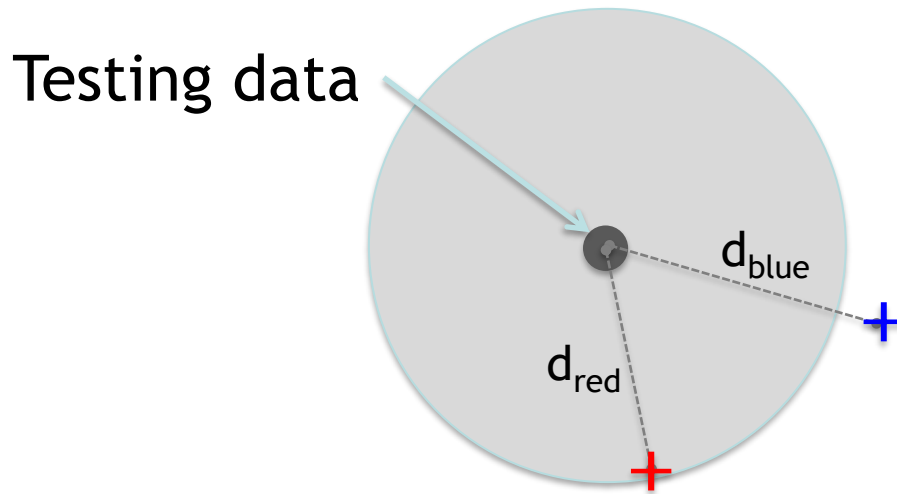
DMIN Algorithm

1. Centers of mass of each class
2. Distances

Testing data



DMIN: Minimal Distance (two classes)



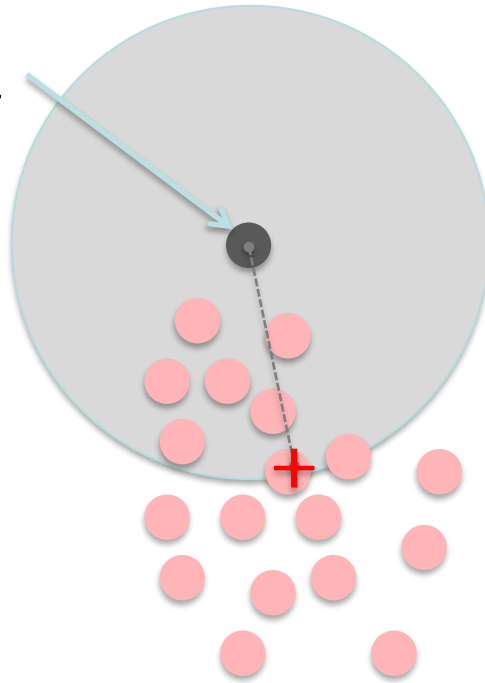
DMIN Algorithm

1. Centers of mass of each class
2. Distances
3. Take the class of the minimal distance

$d_{\text{red}} < d_{\text{blue}} \rightarrow$ Testing sample is red

DMIN: Minimal Distance (two classes)

Testing data



DMIN Algorithm

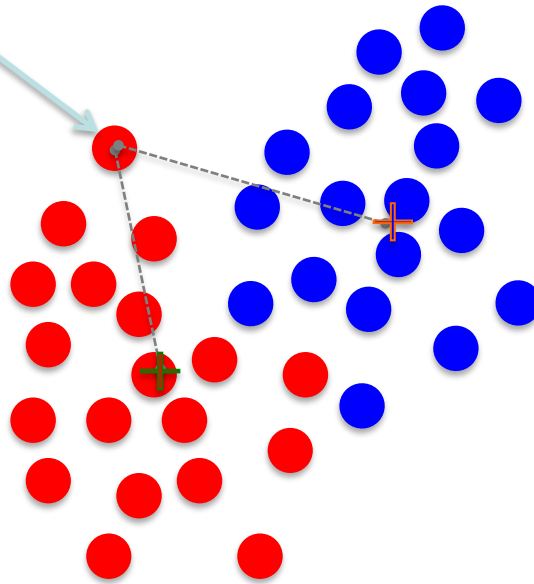
1. Centers of mass of each class
2. Distances
3. Take the class of the minimal distance

DMIN: Minimal Distance (two classes)

DMIN Algorithm

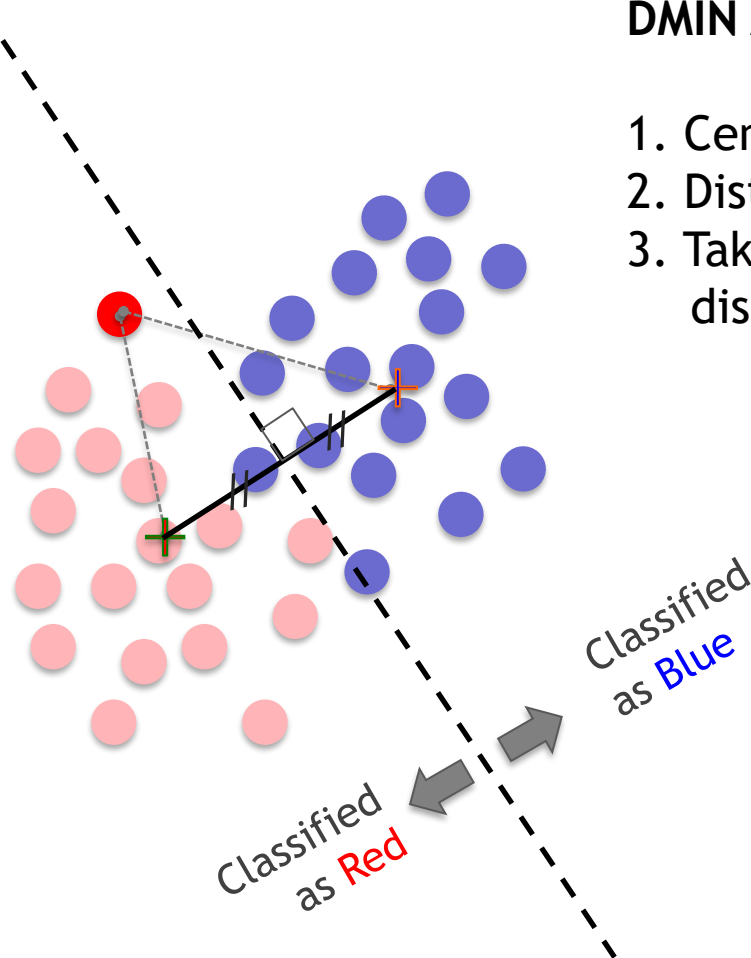
1. Centers of mass of each class
2. Distances
3. Take the class of the minimal distance

Testing data



DMIN: Minimal Distance (two classes)

Decision Line



DMIN Algorithm

1. Centers of mass of each class
2. Distances
3. Take the class of the minimal distance